

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-27 (canceled)

1       Claim 28 (new): A system for use in conjunction with a packet  
2       based telecommunication network for determining a charge for a  
3       packet connection therethrough, the charge being responsive to  
4       dynamic changes in packet loading occurring during the  
5       connection, the network carrying system packets (RM, RESV) which  
6       comprise first and second indications (r1, r2) of capacity or  
7       priority as respectively requested by a user for a connection  
8       and, in response thereto, assigned to that connection for the  
9       user by the telecommunication system, the system comprising:

10       a measuring device for measuring a duration (t) of each of  
11       a plurality of successively occurring time periods during which a  
12       predefined number (N) of packets in a packet stream that belong  
13       to a common packet connection are received or transmitted through  
14       the connection so as to define corresponding ones of a plurality  
15       of measured time periods, wherein the predefined number is less  
16       than a total number of packets transported during the connection  
17       and the time periods extend substantially throughout an entire  
18       duration of the connection;

19       a billing system, responsive to the measuring device, for  
20       formulating a charge for use of the connection;

21       a first detection device, responsive to the system packets  
22       in the packet stream and associated with the connection, for

23 reading out the first indication (r1) from the system packets and  
24 transferring the first indication (r1) to the billing system; and  
25 a second detection device, responsive to the system packets  
26 in the packet stream and associated with the connection, for  
27 reading out the second indication (r2) from the system packets  
28 and transferring the second indication (r2) to the billing  
29 system; and

30 wherein the charge for the connection, as determined by the  
31 billing system, reflects the measured duration (t) of each one of  
32 the measured time periods, such that a corresponding incremental  
33 charge for each one of the periods responsively tracks changes in  
34 the packet flow (N/t) then occurring on a period-by-period basis  
35 substantially throughout the entire duration of the connection,  
36 the charge also reflecting the first and second indications (r1,  
37 r2).

1 Claim 29 (new): The system recited in claim 28 further comprising  
2 a calculation device, responsive to said measuring device, for  
3 calculating a ratio reflective of the number (N) of packets and  
4 the duration (t) of each of said measured time periods so as to  
5 yield a calculation result (r) for said each measured time period  
6 and supplying the calculation result (r) to the billing system  
7 for use in formulating the charge.

1 Claim 30 (new): The system recited in claim 29 further comprising  
2 an aggregation device for aggregating the calculation result over  
3 all of said measured time periods so as to form an aggregate  
4 result and passing the aggregate result to the billing system for  
5 use in formulating the charge.

1 Claim 31 (new): The system recited in claim 29 further comprising  
2 an aggregation device for aggregating said capacity or priority

3 indications provided by the first or second detection devices so  
4 as to form aggregate indications and passing the aggregate  
5 indications to the billing system for use in formulating the  
6 charge.

1 Claim 32 (new): The system recited in claim 28 further comprising  
2 an aggregation device for aggregating said capacity or priority  
3 indications provided by the first or second detection devices so  
4 as to form aggregate indications and passing the aggregate  
5 indications to the billing system for use in formulating the  
6 charge.

1 Claim 33 (new): The system recited in claim 28 wherein the packet  
2 network is an asynchronous transfer mode (ATM) network and the  
3 packets are ATM cells.

1 Claim 34 (new): The system recited in claim 33 further comprising  
2 a calculation device, responsive to said measuring device, for  
3 calculating a ratio reflective of the number (N) of ATM cells and  
4 the duration (t) of each of said measured time periods so as to  
5 yield a calculation result (r) for said each time period and  
6 supplying the calculation result (r) to the billing system for  
7 use in formulating the charge.

1 Claim 35 (new): The system recited in claim 34 further comprising  
2 an aggregation device for aggregating the calculation result so  
3 as to form an aggregate result and passing the aggregate result  
4 to the billing system for use in formulating the charge.

1 Claim 36 (new): The system recited in claim 33 further comprising  
2 an aggregation device for aggregating said capacity or priority  
3 indications provided by the first or second detection devices so

4 as to form aggregate indications and passing the aggregate  
5 indications to the billing system for use in formulating the  
6 charge.

1 Claim 37 (new): The system recited in claim 34 further comprising  
2 an aggregation device for aggregating said capacity or priority  
3 indications provided by the first or second detection devices so  
4 as to form aggregate indications and passing the aggregate  
5 indications to the billing system for use in formulating the  
6 charge.

1 Claim 38 (new): A system for use in conjunction with a packet  
2 based telecommunication network for determining a charge for a  
3 packet connection therethrough, the charge being responsive to  
4 dynamic changes in packet loading occurring during the  
5 connection, the network carrying system packets (RM, RESV) which  
6 comprise first and second indications (r1, r2) of capacity or  
7 priority as respectively requested by a user for a connection  
8 and, in response thereto, assigned to that connection for the  
9 user by the telecommunication system, the system comprising:

10 a measuring device for ascertaining a number of packets (N)  
11 in a packet stream that belong to a common packet connection and  
12 are received or transmitted through the connection during each  
13 one of a plurality of successive time periods of equal duration  
14 (t) so as to define a plurality of packet counts, the time  
15 periods extending substantially throughout an entire duration of  
16 the connection;

17 a billing system, responsive to the measuring device, for  
18 formulating a charge for use of the connection;

19 a first detection device, responsive to the system packets  
20 in the packet stream and associated with the connection, for

21 reading out the first indication (r1) from the system packets and  
22 transferring the first indication (r1) to the billing system; and

23 a second detection device, responsive to the system packets  
24 in the packet stream and associated with the connection, for  
25 reading out the second indication (r2) from the system packets  
26 and transferring the second indication (r2) to the billing  
27 system; and

28 wherein the charge for the connection, as determined by the  
29 billing system, reflects the packet count (N) for each one of the  
30 time periods, such that a corresponding incremental charge for  
31 each one of the periods responsively tracks changes in the packet  
32 flow ( $N/t$ ) then occurring on a period-by-period basis  
33 substantially throughout the entire duration of the connection,  
34 the charge also reflecting the first and second indications (r1,  
35 r2).

1 Claim 39 (new): The system recited in claim 38 further comprising  
2 a calculation device, responsive to said measuring device, for  
3 calculating a ratio reflective of the number (N) of packets in  
4 the packet stream during each one of said time periods and the  
5 duration (t) of said each time period so as to yield a  
6 calculation result (r) for said each time period and supplying  
7 the calculation result (r) to the billing system for use in  
8 formulating the charge.

1 Claim 40 (new): The system recited in claim 39 further comprising  
2 an aggregation device for aggregating the calculation result over  
3 all of said time periods so as to form an aggregate result and  
4 passing the aggregate result to the billing system for use in  
5 formulating the charge.

1       Claim 41 (new): The system recited in claim 39 further comprising  
2       an aggregation device for aggregating said capacity or priority  
3       indications provided by the first or second detection devices so  
4       as to form aggregate indications and passing the aggregate  
5       indications to the billing system for use in formulating the  
6       charge.

1       Claim 42 (new): The system recited in claim 38 further comprising  
2       an aggregation device for aggregating said capacity or priority  
3       indications provided by the first or second detection devices so  
4       as to form aggregate indications and passing the aggregate  
5       indications to the billing system for use in formulating the  
6       charge.

1       Claim 43 (new): The system recited in claim 38 wherein the packet  
2       network is an asynchronous transfer mode (ATM) network and the  
3       packets are ATM cells.

1       Claim 44 (new): The system recited in claim 43 further comprising  
2       a calculation device, responsive to said measuring device, for  
3       calculating a ratio reflective of the number (N) of packets in  
4       the packet stream during each one of said time periods and the  
5       duration (t) of said each time period so as to yield a  
6       calculation result (r) for said each time period and supplying  
7       the calculation result (r) to the billing system for use in  
8       formulating the charge.

1       Claim 45 (new): The system recited in claim 44 further comprising  
2       an aggregation device for aggregating the calculation result so  
3       as to form an aggregate result and passing the aggregate result  
4       to the billing system for use in formulating the charge.

1       Claim 46 (new): The system recited in claim 43 further comprising  
2       an aggregation device for aggregating said capacity or priority  
3       indications provided by the first or second detection devices so  
4       as to form aggregate indications and passing the aggregate  
5       indications to the billing system for use in formulating the  
6       charge.

1       Claim 47 (new): The system recited in claim 44 further comprising  
2       an aggregation device for aggregating said capacity or priority  
3       indications provided by the first or second detection devices so  
4       as to form aggregate indications and passing the aggregate  
5       indications to the billing system for use in formulating the  
6       charge.